

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

Public Housing Agencies; Indian
Housing Authorities; Secretary's
Representatives; Field Office
Public Housing Directors;
Administrators; Offices of Native
American Programs; Resident
Management Corporations

Notice PIH 97-16 (HA)
Issued: 4/17/97
Expires: 4/30/98

Energy Standards and State Energy Codes

PURPOSE

The purpose of this notice is to provide Public Housing Agencies and Indian Housing Authorities (referred to as HAs) with information relative to HUD's policy on energy standards for new construction, sources of energy code information and status of state adoption of energy codes for single and multifamily properties.

BACKGROUND

New construction assisted by HUD must meet energy efficiency standards. (See Section 101 of the Energy Policy Act of 1992; P.L. 102-486, Oct 24, 1992, which amended Sec. 109 -- 42 U.S.C. 12709 of the 1990 National Affordable Housing Act.) This covers public and assisted housing and one and two family and multifamily dwellings three stories or less residential housing (other than manufactured housing) subject to mortgages insured under the National Housing Act. It also includes the HOME program. (See: 24 CFR 92.251.) HUD implemented the requirement of Section 101 by amending the Minimum Property Standards (MPS) for Housing.

(See: 24 CFR 200.925; 24 CFR 200.926d(e).)

- * **For one and two family and multifamily dwellings three stories or less**, the provisions of the Council of American Building Officials (CABO) 1992 Model Energy Code (MEC) apply.
- * **For multifamily high-rise** buildings, the requirement is Standard 90.1-1989 of the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)/ Illuminating Engineering Society of North America (IES).

As the standards in these codes are revised by the organizations that create them, HAs are required to meet or exceed the

new requirements unless it is determined that compliance would not result in a significant increase in energy efficiency or would not be technologically feasible or economically justified.

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INFORMATION

The Office of Community Planning and Development has prepared a summary of information relating to the Energy Standards for compliance along with a state by state summary of Energy Codes. This information, Attachments 1 and 2, is being provided for use by HAS as well as HUD Field Office Staff as it relates to newly constructed units.

_____/s/
Kevin Emanuel Marchman
Acting Assistant Secretary for
Public and Indian Housing

ATTACHMENT 1

Status of State Energy Codes

January 1, 1997

Alabama: No statewide commercial energy codes, except for state-owned or funded buildings, which must comply with ASHRAE/IES 90.1. In 1995, with the support of homebuilders, a Residential Energy Code Board was created; in March, 1996, the Board adopted a simplified version of 93 MEC, called the Residential Energy Code for Alabama (RECA). Two cities are considering adoption of RECA. The state received FY96 DOE State Energy Program (SEP) funding to assist municipalities in adopting the RECA and to introduce a commercial code.

Alaska: 92 MEC is mandatory for all residential buildings. No commercial energy code and no known initiatives to adopt one. Changes are being reviewed by a Technical Advisory Group to improve the state residential code. Air tightness and ventilation requirements are the most critical issues. When changes are approved, public hearings will be held around the state; the Alaska Housing Finance Corporation will implement code changes when they are! finalized.

Arizona: No statewide commercial or residential energy codes. HERS for residential structures is widespread. Pima County and Tucson have adopted the 95 MEC. No initiatives for state adoption of residential or commercial codes. The state received DOE SEP funding to support Tucson/Pima County's progressive efforts.

Arkansas: Arkansas has adopted ASHRAE/IES 90.1 for commercial construction and a residential energy code based on 92 MEC. Both are state requirements. Builder self-certification is required even if local governments do not enforce the codes. The state received FY96 DOE SEP funding to facilitate the use of the Arkansas Energy Code through a Circuit Rider Project and to train HVAC contractors. Arkansas has implemented an Arkansas Energy Efficiency Partnership which deals primarily with consumer education.

California: California's Title 24 regulations meet or exceed ASHRAE/IES 90.1 and 92 MEC and are mandatory statewide. State officials are reviewing adoption of nationally recognized energy codes as a possibility in the future. Training has been provided to building departments and designers. Further training is being provided for builders and construction superintendents.

Colorado: Colorado's residential energy provisions, which do not meet 92 MEC, are mandatory minimum requirements only for jurisdictions that adopt a building code. There is currently no statewide commercial energy code. New commercial standards based on 90.1 will be released for public review on January 30, 1997. For residential standards, the SEO is partnering with the state

HBA and Energy Rated Homes of Colorado for voluntary compliance. The City of Ft. Collins adopted a modified 95 MEC and modified 90.1, both of which took effect 7-1-96. The state received FY96 DOE funding to promote the adoption of 90.1 by local jurisdictions and to provide 90.1 training.

Connecticut: ASHRAE/IES 90.1 has been adopted for commercial buildings. The statewide residential energy code does not meet 92 MEC, as it is based on 90 BOCA. The state is reviewing the 96 BOCA codes (which include 95 MEC) for adoption anticipated by Fall 97. The state received FY96 DOE funding to facilitate adoption of the MEC and to provide 90.1 and MEC training.

Delaware: 93 MEC (and therefore 90.1) has been adopted and implemented. The state received FY96 DOE funding to continue providing MEC and 90.1 training.

District of Columbia: Commercial and residential energy codes do not meet ASHRAE/IES 90.1 and 92 MEC. A Building Code Advisory Committee is scheduled to meet monthly; the Energy Subcommittee has been inactive.

Florida: Commercial and residential energy codes meet or exceed ASHRAE/IES 90.1 and 92 MEC and are mandatory statewide. The state is revising the Florida energy efficiency code for implementation in September 1997. A public hearing and public comment period will occur in February 97. The state received FY96 funding to establish a Southern States Energy Board and to encourage market-driven energy efficient construction.

Georgia: 95 MEC (and therefore 90.1 code) has been adopted and took effect 4-1-96. Training for 90.1 is currently being held. A commercial code amendment lessening the U-value requirement for roof coverings with high albedo surface has been proposed; a public hearing will be held on February 6, and if approved by the Department of Community Affairs, the code change will take effect

April 1997.

Hawaii: ASHRAE/IES 90.1 with modifications has been adopted for commercial; all counties have adopted except Maui, which is still resistant to adoption. Hawaii's residential energy guidelines meet or exceed 92 MEC but are not mandatory statewide. The state received FY 96 funding to update and distribute lighting standards.

Idaho: Currently, no statewide commercial energy code. A newly developed commercial code, which exceeds 90.1, is in a public review period and will be sent to the state legislature in January 1997. New residential energy standards, which do not meet 92 MEC because of lack of floor insulation, took effect 1-1-96; builder self-certification is required if local jurisdictions do not enforce a code. Many jurisdictions adopt the Northwest Energy Code or the MEC. The state received FY96 DOE funding to develop an infrastructure for use of 90.1.

Illinois: No statewide commercial or residential energy codes, except for state-owned buildings which must comply with ASHRAE/IES 90.1. The City of Chicago also requires 90.1 for city buildings. The state and Chicago are pursuing voluntary residential compliance ventures through Illinois Energy Rated Homes training.

Indiana: 92 MEC with state amendments adopted and enforced statewide. Commercial energy standards do not meet or exceed ASHRAE/IES 90.1. The SEO is participating in the Multi-State Commercial Code group that is developing enhancements to 90.1. The state is also reviewing adoption of 95 MEC and has just completed code compliance and HERS training through a DOE grant. The state received FY96 DOE funding to provide consumer education about homes meeting the code.

Iowa: 92 MEC and ASHRAE/IES 90.1 are adopted statewide, mandatory and enforced by local jurisdictions. The Home Builders Association of Iowa, through the Secretary of State, petitioned the Building Code Commissioner to remove basement insulation requirements from the state residential energy code. A public hearing was held in December 1996. In late January or early February 1997, the Iowa Building Code Advisory Committee will vote on the petition and make a recommendation to the Building Code Commissioner. Iowa is providing 90.1 and MEC training and education and training to integrate the use of HERS as a method of code compliance. Local utilities also support the HERS program with rebates.

Kansas: The Kansas Corporation Commission (KCC) adopted 93 MEC and ASHRAE/IES Standard 90.1, which utilities are expected to "put it into effect" by the end of 1996. In early 96, legislation was introduced, passed in the House, and sent the Senate, to eliminate the KCC's authority to adopt and enforce energy standards for residential structures. In early May, the legislature adjourned without the bill getting out of conference committee. A similar initiative will be introduced in the 1997 legislative session. MEC and 90.1 training has been provided. The state received FY96 DOE funding to provide more training and to develop maximum trade-off flexibility.

Kentucky: 92 MEC adopted statewide; the state is considering adoption of 1996 BOCA (with either 93 or 95 MEC), with proposed July 1997 implementation. Commercial energy code does not currently meet ASHRAE/IES 90.1.

Louisiana: No statewide energy codes. The state is pursuing adoption of a commercial code and received FY96 DOE funding to enact the commercial code and to promote local adoption of the MEC. Development of commercial standards for the state is proceeding through a technical advisory group of stakeholders. **Maine:** ASHRAE/IES 90.1 adopted statewide. The residential energy code does not meet 92 MEC. No known initiatives to revise the residential code.

Maryland: Statewide energy codes do not meet ASHRAE/IES 90.1 or 92 MEC, as they are based on 93 BOCA. 96 BOCA has been reviewed and proposed for adoption. Notice of intent to adopt 96 BOCA (including 95 MEC) will appear in the Maryland Register in January 97, with a public comment period to follow. The new codes are expected to take effect in October 1997. The state received FY96 DOE funding to establish a comprehensive code training system.

Massachusetts: The statewide commercial energy code meets or exceeds ASHRAE/IES 90.1; the residential code does not meet 92 MEC for certain fuel-specific structures. Adoption of the 95 MEC, with amendments, for residential was finalized in December 1996 by the Board of Building Regulations and Standards, and the new code will become effective September 1, 1997. Commercial code development is proceeding through the Multi-State Commercial Code project, which is seeking an enhanced 90.1 that is "usable and enforceable." The state received FY96 DOE funding for residential and commercial training and to continue the multi-state commercial code project.

Michigan: 93 MEC, adopted statewide in July 1995, was repealed

by the legislature in December 1995. The state energy code reverts back to ASHRAE Standards 90A and 90B; the State Construction Code Commission (which approved and proposed the adoption of the 1993 MEC) has been directed to adopt cost-effective energy efficiency standards by 4-1-97. An Energy Code Ad Hoc Committee is stalemated. Although there was no apparent problem with the commercial criteria in 90.1, the repeal of 93 MEC also eliminated 90.1.

Minnesota: Commercial and residential energy codes meet or exceed ASHRAE/IES 90.1 and 92 MEC. The state has proposed commercial code upgrades and improvements to be effective in mid-1997. A MN version of MECcheck, called MNcheck, is now available and being distributed to builders. The state is focusing on air tightness and mechanical ventilation in homes for the next code revisions. The state received FY96 DOE funding to achieve implementation of proposed 1998 updated residential code.

Mississippi: Residential and commercial energy codes do not meet 92 MEC or ASHRAE/IES 90.1. State legislation to adopt current national energy standards died in 1995. Legislation is being drafted to adopt current energy codes in the 1997 legislative session.

Missouri: No statewide energy codes, except for state facilities which must comply with ASHRAE/IES 90.1. Legislation to adopt a statewide building code died in the 1994 legislative session. Legislation similar to the 1994 bill (voluntary codes) failed in the 1996 session. Reintroduction may occur next session.

Montana: Statewide residential energy code is 93 MEC, and ASHRAE/IES 90.1 took effect 1-1-96. Cities authorized to issue building permits are bound by the new code. The state received FY96 DOE funding to provide training and technical support for builders, designers, and code officials.

Nebraska: The statewide commercial and residential energy codes do not meet ASHRAE/IES 90.1 or 92 MEC. Legislation to adopt 92 MEC failed in the 1994 state legislature. The state has developed an incentive program to reduce the mortgage interest rate for homes built at or above MEC levels. The reduction in the interest rate is achieved through a loan participation by the Nebraska Energy Office. The NE Energy Efficiency Mortgage program is now operational.

Nevada: State energy code does not meet ASHRAE/IES 90.1 or the MEC. Legislation to adopt 92 MEC died with adjournment of the 1995 legislative session. The state is pursuing voluntary

compliance strategies. State code adoption has been impeded by a two year moratorium on new state energy regulations. Las Vegas, Henderson, and Clark County have adopted the 92 MEC.

New Hampshire: ASHRAE/IES 90.1 adopted. The state residential code does not meet 92 MEC. The Public Utilities Commission is reviewing 95 MEC and expects the process to be completed by Spring 1997. No training for ASHRAE 90.1 has occurred yet.

New Jersey: ASHRAE/IES 90.1 adopted. The residential energy code does not meet 92 MEC, as it is based on 93 BOCA. The latest edition of BOCA has traditionally been adopted as a statewide code unamended. However, 1996 legislation froze the codes at the July 1, 1995 level unless the Department of Community Affairs (DCA) deems certain provisions of the new codes as essential to carry out the intent of the law. The Codes Office of DCA is reviewing 96 BOCA for adoption, but may delete reference to the 95 MEC and substitute ASHRAE Standards 90A and B as the energy standard for residential construction. A coalition of state stakeholders is working with DCA to improve New Jersey's residential energy standards. The Board of Public Utilities received FY96 DOE funding to promote the adoption of an energy code that meets or exceeds the MEC and to provide training and certification for the MEC.

New Mexico: 92 MEC adopted. Commercial code does not currently meet ASHRAE/IES 90.1. However, a new study committee has reconvened to review adoption of 90.1. Final recommendations are expected in April 1997. Adoption of the code may occur by the end of 1997. The Governor has signed an Executive Order for state energy management, calling for 90.1 compliance for new state buildings. The state received FY96 DOE funding for MEC training and updating residential code to 95 MEC.

New York: State energy code meets or exceeds ASHRAE 90.1 and 92 MEC. Legislation was introduced in 1995 by homebuilders to replace the New York State Building Code with the latest version of BOCA, which references 95 MEC in its 1996 codes. The legislation will be reintroduced in the 1997 legislative session.

North Carolina: The residential code is a simplified 95 MEC. ASHRAE/IES took effect 7/1/96. North Carolina is participating in the Multi-State Commercial Code Project to improve commercial energy codes. Training in the state is focused on the design community.

North Dakota: The state has adopted 93 MEC, but the state codes are voluntary unless a jurisdiction adopts them. The state

received FY96 DOE funding to promote local adoption of the MEC and to integrate MEC training into the state's vocational education system.

Ohio: 93 MEC (and therefore ASHRAE/IES 90.1) adopted, effective July 1995. The OH legislature recessed in June without acting on a bill that eliminates the requirement to change energy standards when technological advances make old standards obsolete or inadequate and without the homebuilders attaching a MEC repeal amendment to other legislation. The legislature in a short session after the November elections removed criminal penalties for non-compliance with the energy code. The OHBA and stakeholders are currently working to develop prescriptive code requirements that will satisfy the OHBA, OBBS, and energy advocates. The state received FY96 DOE funding to provide code training in Cincinnati, and to work with utilities, bankers, and realtors, who are involved in OH's HERS program.

Oklahoma: No state energy codes adopted, except for state-owned buildings. State contractor licensing requires compliance with BOCA codes for some trades; the 1996 International Mechanical Code, which references 95 MEC, took effect in August and is the minimum installation standard statewide for mechanical contractors. The 1996 BOCA codes, which also reference 95 MEC, are being reviewed by the State Fire Marshal's Office as the mandatory for jurisdictions without codes; effective date anticipated by July 97.

Oregon: Statewide energy codes meet or exceed 92 MEC and ASHRAE/IES 90.1. The state received FY96 DOE funding to support implementation of the non-residential energy code through the Circuit Rider Program, which is sponsored by public utilities.

Pennsylvania: Statewide energy code does not meet 92 MEC or ASHRAE/IES 90.1. Legislation that calls for the statewide adoption of 96 BOCA including 95 MEC and repeal of Act 222, the old energy standards based on ASHRAE 90, passed the PA House the end of June 96, went to the state Senate in late September, and died in committee upon adjournment. The legislation will be reintroduced in early 1997.

Rhode Island: 93 MEC (and therefore ASHRAE/IES 90.1) has been adopted statewide and is expected to take effect in January 97.

South Carolina: The statewide commercial code meets ASHRAE/IES 90.1; the residential energy code is 92 MEC with amendments that make it less stringent. Legislation was introduced to mandate the latest SBCCI codes and the MEC statewide (currently only 57%

of counties have adopted a building code, with fewer actually enforcing the energy code). The bill passed the Senate in 1996 but was rejected in the House after a contentious debate over requiring a "super" majority (2/3) in local governments to raise taxes or fees. The bill will be reintroduced in 1997.

South Dakota: No state energy codes. The state is considering an initiative to adopt a commercial energy code in the 1997 legislative session.

Tennessee: State energy code is 92 MEC; therefore, commercial standards do not meet ASHRAE/IES 90.1. The state and the design community are reviewing 95 MEC for adoption.

Texas: No state energy codes, except for state-owned buildings. Residential code training is currently being offered for designers and code officials, especially in jurisdictions that have voluntarily adopted the MEC. The state received FY96 DOE funding to provide commercial compliance training and to implement an EEM program for new residential construction.

Utah: State energy codes are ASHRAE/IES 90.1 and 93 MEC. Training workshops have been held. The state received FY96 DOE funding to complete the implementation of the new codes and to provide public education about exceeding the codes.

Vermont: Mandatory energy efficiency standards which meet or exceed 92 MEC and ASHRAE/IES 90.1 are contained within Vermont's land use regulations (Act 250), and cover approximately 50% of construction. The Governor's Task Force voted unanimously to reintroduce legislation in 1997 on the adoption of a modified 95 MEC, for all residential construction. In early February 1996, the MEC bill died in the House. Vermont is working with the Multi-State Working Group to promote an enhanced commercial code based on 90.1R or equivalent. The state received FY96 DOE funding to promote commercial energy code adoption and to provide compliance training.

Virginia: 93 MEC (and therefore ASHRAE/IES 90.1) adopted statewide. The Board of Housing and Community Development is soliciting public comments on adoption of the 1996 BOCA codes, which are expected to be adopted in April 97; 95 MEC is receiving little attention.

Washington: Statewide energy codes meet or exceed 90.1 and 92 MEC. The State Energy Office was terminated on 7-1-96, with its functions assumed by other agencies. Energy code training programs will be integrated with those of the building industry.

The state received FY96 DOE funding to provide code training and support through transition of utility restructuring and to support a codes hotline.

West Virginia: State energy code does not meet ASHRAE/IES 90.1 or 92 MEC, as it is based on 93 BOCA. The State Fire Commission, through a compromise with the homebuilders association, will introduce legislation in early 1997 to adopt 96 BOCA without the 95 MEC. Stakeholders are working to get the 95 MEC included. Residential and commercial energy code workshops are being held.

Wisconsin: ASHRAE/IES 90.1 was scheduled to take effect on 4-1-96 but last minute political resistance forced the date back one year. A modified conversion package was introduced and passed in November 1996 by the state legislature. Public review is expected in February 1997. Adoption is expected April 1, 1997. The residential energy code nominally meets 92 MEC; a state energy task force is studying adoption of 95 MEC in lieu of developing state-written standards. The state received FY96 DOE funding to provide commercial code training and to promote home energy ratings to comply with residential code.

Wyoming: State energy codes do not meet 92 MEC and ASHRAE/IES 90.1. No known initiatives to revise energy standards.

MULTI-STATE COMMERCIAL CODE WORKING GROUP: Representatives from various states are working to accelerate the development of an advanced and enforceable commercial energy code. The Multi-State Working Group (**MSWG**) has three objectives: improve efficiency standards, foster simplicity, and develop support. The following states are involved in this effort: California, Connecticut, Florida, Indiana, Maine, Massachusetts, Minnesota, New Hampshire, North Carolina, Oregon, Rhode Island, and Vermont. Other states are invited to join.

First, these states want a code that improves the levels of efficiency found in ASHRAE/IES 90.1-1989. In the seven years since 90.1 was published, there have been numerous efficiency gains in lighting, appliances, and general construction. MSWG members feel that the aforementioned code no longer serves the goals set by those states that wish to adopt current commercial codes.

Second, these states want a code that can be understood by design professionals and enforced by local code enforcement officials. The members feel that 90.1 is overly complex, evidenced by recurring problems of interpretation and implementation of the code.

Finally, the MSWG members want a code that can be easily

supported by training and administrative tools -- manuals, software, etc. -- generated by a technically competent national source. COMcheck-EZ, developed by Pacific Northwest National Laboratory (PNNL) is currently being reviewed by many states in the group. Any state interested in joining this effort or needing more information should contact Southface Energy Institute, (704) 265-4888Next report: March 1997.

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A. SOURCES OF INFORMATION CODES

1. Copies of the 1992 MEC cost \$10 and can be obtained from the Building Officials and Code Administrators International: BOCA International, 4051 Flossmore Road, Country Club Hills IL 60478
2. **The ASHRAE standard** is available from ASHRAE, 1791 Tullie Circle, Atlanta, GA 30329-2305, 1-800-527-4723. Cost: \$98 (\$65 for members), available in 5 1/4" disk (86237) or 3 1/2" disk (86238).
3. **HUD USER** now distributes four resources developed by the Department of Energy (DOE) on compliance with CABO MEC 1992. **Call HUD USER at 1-800-245-2691.**
 - The **MECcheck Manual** describes the basic requirements of the code for building components, approaches for attaining compliance and guidance for plan checkers and inspectors.
 - **MECcheck Prescriptive Packages** enables design and construction professionals to select features for any climate zone.
 - **MECcheck Software** and its **User's Guide** calculate tradeoffs between building envelope components and heating and cooling equipment efficiencies.
4. **The Department of Energy (DOE)** provides technical assistance to help States meet these standards. It maintains a Hotline: **1-800-270-CODE (2633)** for information on building energy codes and standards. DOE also supports the Building Code Assistance Project whose mission is "accelerating implementation of building energy codes." See below.

B. THE MODEL ENERGY CODE - A LAYMAN'S SUMMARY

The Model Energy Code (MEC) establishes minimum requirements for energy-related features of new buildings and additions to existing buildings. It covers low-rise buildings three stories or less as well as one- and two-family and multifamily buildings. It does not apply to existing buildings (including those being rehabilitated) unless there is a change in use that increases the building's energy use. The MEC is applicable to all types of residential and non-residential buildings; it is not applicable to historic structures. HUD has other energy standards for manufactured housing. (See: Manufactured Home Construction and Safety Standards, 24CFR3280 Subpart F-Thermal Protection.)

The MEC emphasizes flexibility to suit local needs and conditions by offering three means of achieving compliance:

- an approach based on each separate building component or system;
- a systems approach that determines compliance based on the building's total energy use;
- specified acceptable practice. This approach can be used only for buildings of 5000 square feet or less and of three stories or less.

Each of the three approaches takes into account the following:

- the resistance of the "building envelope" (walls, roof/ceiling, floors) to heat loss (or gain) through the materials and as a result of air infiltration;
- the efficiency of the mechanical systems for heating and cooling;
- the efficiency of the system for providing hot water;
- the efficiency of the electrical and lighting systems.

The "component" approach calls for meeting energy conservation standards for each of the above areas, and the MEC spells out detailed criteria that the builder must satisfy. For example, tables are provided that specify the thermal resistance required for each part of the building envelope, considering the climate (as expressed in degree days); required coefficients of performance are specified for various types of heating and cooling equipment; and illumination level criteria are established for the lighting system. The MEC, of course, includes considerable technical detail relevant to these and many other aspects of construction.

The "systems" approach provides that the building, as a whole, must be as energy efficient as one constructed under the component approach. This is based on annual use.

The "acceptable practice" approach is designed to offer a somewhat simplified way to comply with the code, although there is considerable relationship to the standards spelled out in the component approach. Generally, the MEC states one or more acceptable practices, and using it is deemed to satisfy the code. As mentioned above, this approach is limited to 5000 square foot buildings of three stories or less. It is further limited to

residential buildings or non-residential buildings that are heated only (i.e., not mechanically cooled).

C. STATUS OF STATE CODES

To keep up with energy code developments in each state, we rely on DOE's Building Codes Assistance Project (BCAP) which tracks information on the status of energy codes in each state. For direct access, BCAP's telephone is (202) 530-2200. To assist HUD field offices, HUD Energy Division secures this information from BCAP and shares it with HUD offices. A summary of the status of State Energy Codes in relation to CABO MEC 92 for single-family and ASHRAE 90.1 for multi-family properties follows below. Additional information on developments in each state will be provided from time to time.

- 1) **CABO MEC for single family properties:** By November, 1996, 28 states had adopted building energy codes that meet or exceed the CABO Model Energy Code (MEC) 1992 required by HUD for single-family. Some adopted a state code, others the MEC 1992, 1993 or 1995 versions.

Note: RI postponed the effective date. Idaho meets CABO, except for floor insulation, and thus is not listed below. Hawaii's is not state-wide. There are at least five local governments that have adopted CABO MEC.

States that meet or exceed MEC 1992:

1. Alaska
92 MEC
2. Alabama
92 (voluntary for local adoption)
3. Arkansas
92 MEC
4. California
state version
5. Delaware
93 MEC
6. Florida
state version
7. Georgia
95 MEC
8. Hawaii
92 MEC (but not mandated state-wide)
9. Indiana
92 MEC
10. Iowa
92 MEC
11. Kansas
93 MEC
12. Kentucky
92 MEC

13. Massachusetts state (state code is fuel specific: electric homes meet MEC 92; gas homes probably do not)
14. Minnesota state version
15. Montana 93 MEC
16. New Mexico 92 MEC
17. New York state version
18. North Carolina state version
19. North Dakota 93 MEC (voluntary)
20. Ohio 93 MEC
21. Oregon state version
22. Rhode Island 93 MEC (effective date postponed)
23. South Carolina state version (amended: less stringent than 92 Also voluntary-only 50% of counties adopt state code.)
24. Tennessee 92 MEC
25. Utah 93 MEC
26. Virginia 93 MEC
27. Washington state version
28. Wisconsin state version

Local adoption:

- Clark County and Las Vegas, Nevada
- Denver and Fort Collins, Colorado
- Austin, El Paso, Texas (and possibly more).
- Idaho Falls, Idaho
- Tucson and Pima County, Arizona (95 MEC) 11-1-96

2. **ASHRAE standard for multifamily properties:** 25 States had adopted codes and standards that either meet or exceed ASHRAE/IES Standard 90.1-1989, required by HUD. Note that RI and WI have 1997 effective dates.

States that meet or exceed ASHRAE Standard 90.1:

1. Arkansas
2. California
3. Connecticut
4. Delaware
5. Florida
6. Georgia
7. Hawaii (exc. Maui)
8. Iowa
9. Maine
10. Massachusetts
11. Minnesota
12. Montana
13. New Hampshire

14. New Jersey
15. New York
16. North Carolina
17. North Dakota (state codes voluntary until adopted locally)
18. Ohio
19. Oregon
20. Rhode Island (effective date expected to be 1-97)
21. South Carolina
22. Utah
23. Virginia
24. Washington
25. Wisconsin (effective date 4-97)

Source: BCAP

cc: PHMM - OLSON 4214 (H:\execsec\ENGYNTC.ATT 1/31/97 slb)
PHMM - THORSON 4214; PH-RUSS 4204